

IN THE CLAIMS

1. (Currently Amended) In a mobile station storing a list of wireless communications systems, a system acquisition procedure comprising the steps of:

selecting, by the mobile station, each of a plurality of wireless communications systems;

initiating, by the mobile station, acquisition/registration attempts by the mobile station in response to selecting each of the plurality of wireless communications systems;

creating and maintaining, by the mobile station, system priority data in response to the mobile station initiating the acquisition/registration attempts, the system priority data including a first plurality of system identifiers and corresponding priority criteria including historical statistical information regarding the acquisition/registration attempts by the mobile station;

selecting, by the mobile station, a group of wireless communications systems from the list in accordance with a predetermined system selection procedure, the group of wireless communications systems having a first system acquisition order;

reprioritizing, by the mobile station, the group of wireless communications systems in accordance with the priority criteria, the reprioritized group of wireless communications systems having a second system acquisition order based upon respective system desirability levels; and

attempting, by the mobile station, to acquire the wireless communications system in the reprioritized group of wireless communications systems that has a highest priority.

2. (Previously Presented) The method of Claim 1 wherein the list of wireless communications systems is a preferred roaming list including a geographic region identifier,

wherein the step of selecting a group of wireless communications systems comprises the steps of:

determining, by the mobile station, a current geographic region of the mobile station; and

searching, by the mobile station, the preferred roaming list for wireless communications systems having a geographic region identifier that corresponds to the current geographic region of the mobile station, and

wherein the first system acquisition order is dictated by the relative order of the selected wireless communications systems in the preferred roaming list.

3. (Previously Presented) The method of Claim 2 wherein at least two of the selected systems share the same desirability level.

4. (Previously Presented) The method of Claim 3 wherein the step of reprioritizing comprises the steps of:

locating, by the mobile station, selected systems that share the same desirability level;
and

sorting, by the mobile station, the located systems using the priority criteria.

5. (Previously Presented) The method of Claim 3 wherein the step of reprioritizing comprises the steps of:

for each selected system, adjusting, by the mobile station, the corresponding desirability level if the corresponding priority criteria exceeds a first threshold, the adjusted desirability criteria being stored in the group of wireless communications systems; and

sorting, by the mobile station, the group of wireless communications systems using the adjusted desirability levels.

6. (Previously Presented) The method of Claim 3 wherein the step of reprioritizing comprises removing, by the mobile station, a selected system from the group if its corresponding priority criteria exceeds a second threshold.

7. (Previously Presented) The method of Claim 1 wherein the step of creating and maintaining further comprises the steps of:

detecting, by the mobile station, a communications event for a currently selected wireless communications system, the currently selected wireless communications system having a corresponding system identifier; and

updating, by the mobile station, an entry in the system priority data to reflect the occurrence of the detected communications event, the updated entry including the corresponding system identifier.

8. (Currently Amended) The method of Claim 7 wherein the historical statistical information further includes information regarding system acquisition failures and system access failures.

9. (Original) The method of Claim 7 wherein the corresponding system identifier includes a mode and a frequency.

10. (Previously Presented) The method of Claim 7 wherein the step of updating further comprises calculating, by the mobile station, an occurrence rate of the detected event for the currently selected wireless communications system and storing the calculated occurrence rate.

11. (Original) The method of Claim 10 wherein the detected event is a successful signal acquisition and the calculated occurrence rate is a signal acquisition success rate.

12. (Original) The method of Claim 10 wherein the detected event is a failed system access attempt and the calculated occurrence rate is a system access failure rate.

13. (Previously Presented) The method of Claim 1 wherein the step of reprioritizing comprises sorting, by the mobile station, the group of wireless communications systems in accordance with the priority criteria.

14. (Previously Presented) The method of Claim 1 wherein, if the attempted system acquisition and access fails, the step of attempting is repeated with the listed system having a next highest priority in the group.

15. (Currently Amended) In a mobile station, a method for creating and maintaining system priority data comprising the steps of:

detecting, by the mobile station, a communications event for a currently selected wireless communications system in response to an acquisition/registration attempt initiated by the mobile station, the currently selected wireless communications system having a corresponding system identifier; and

updating, by the mobile station, an entry in the system priority data to reflect historical statistical information regarding the acquisition/registration attempts ~~regarding~~for the detected communications event based upon respective system desirability levels, the entry including the corresponding the system identifier.

16. (Currently Amended) The method of Claim 15 wherein said historical statistical information further comprise information regarding system acquisition failures and system access failures.

17. (Currently Amended) The method of Claim 15 wherein said historical statistical information further comprise information regarding successful system acquisitions, successful system accesses, and signal power measurements.

18. (Previously Presented) The method of Claim 15 wherein the step of updating further comprises calculating, by the mobile station, an occurrence rate of the detected event for the currently selected wireless communications system and storing the calculated occurrence rate.

19. (Original) The method of Claim 15 wherein each entry in the system priority data includes a timestamp and wherein the entries in the system priority data are deleted after a certain duration of time.

20. (Previously Presented) The method of Claim 15 wherein the step of updating further comprises calculating, by the mobile station, a priority metric based on a plurality of priority criteria, the priority metric representing the likelihood that an attempt to acquire and register with a corresponding wireless communications system will be successful.

21. (Currently Amended) A mobile station comprising:
a memory, in the mobile station, storing a preferred roaming list, the preferred roaming list including a first plurality of system identifiers and corresponding acquisition parameters; and
processing circuitry, in the mobile station, adapted to:
select each of a plurality of wireless communications systems in response to the preferred roaming list;

initiate acquisition/registration attempts by the mobile station in response to selecting each of the plurality of wireless communications systems;

create and maintain system priority data in response to the mobile station initiating the acquisition/registration attempts, the system priority data being stored in the memory and including a second plurality of system identifiers and corresponding priority criteria including historical statistical information regarding the acquisition/registration attempts by the mobile station based upon respective system desirability levels;

~~wherein the processing circuitry is further adapted to~~
detect a communications event for a currently selected wireless communications system; and

update the historical statistical information in the system priority data to reflect the occurrence of the detected communications event.

22. (Previously Presented) The mobile station of Claim 21 wherein the processing circuitry comprises:

a system determination unit, in the mobile station, adapted to select wireless communications systems from the preferred roaming list in accordance with a predetermined system selection procedure, the selected wireless communications systems have a corresponding system acquisition order,

wherein the system determination unit is further adapted to modify the system acquisition order based on the system priority data, the modified system acquisition order increasing the efficiency of the system acquisition process.

23. (Previously Presented) The mobile station of Claim 22 wherein the system determination unit is further adapted to adjust the corresponding desirability criteria of a selected system if the corresponding priority criteria exceeds a first threshold and sort the selected wireless communications systems using the adjusted desirability criteria.

24. (Original) The mobile station of Claim 23 wherein the processing circuitry is further adapted to measure the power of a received signal corresponding to the currently selected wireless communications system and store the measured power in the system priority data.

25. (Original) The mobile station of Claim 23 wherein the processing circuitry is further adapted to calculate the signal to noise ratio E_c/I_o of a received signal corresponding to the currently selected wireless communications system and store the calculated signal to noise ratio E_c/I_o in the system priority data.